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## Kimura et al.

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4,775,765

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Oct. 4, 1988

| [54] | COORDINATE INPUT APPARATUS |  |  |
|------|----------------------------|--|--|
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| [73] | Assignee:                  | Hitachi, Ltd., Tokyo, Japan  |  |
| [21] | Appl. No.:                 | 935,334  |  |
| [22] | Filed:                     | Nov. 26, 1986  |  |
| [30] | Foreig                     | n Application Priority Data  |  |
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| Nov  | . 28, 1985 [JI             |  |  |
| Feb  | . 24, 1986 [JI             | P] Japan 61-37419  |  |
| [51] | Int. Cl.4                  | G08C 21/00   |  |
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|      |                            | 338/99   |  |
| [58] |                            | arch 178/18, 19, 20;   |  |
|      | 340                        | 0/706, 712, 718, 724, 784; 338/99, 114   |  |

## [56] References Cited

## U.S. PATENT DOCUMENTS

| 3,560,675 | 2/1971 | Krakinowski | 340/712 X  |
|-----------|--------|-------------|------------|
| 4,017,848 | 4/1977 | Tannas      | 340/712 X  |
| 4,208,648 | 6/1980 | Naumann     | . 178/18 X |

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Attorney, Agent, or Firm-Antonelli, Terry & Wands

## [57] ABSTRACT

A coordinate input apparatus including transparent upper and lower strip electrodes arranged to confront each other intersectionally with a transparent press-conductive member being placed between the upper and lower electrodes. The electrode arrangement formed on a transparent substrate is fitted on a display screen, allowing the operator to press the coordinate surface by the finger tip while viewing the display. An upper and lower strip electrodes become conductive by being pressed, generating a signal which represents the pressed position on the coordinates.

27 Claims, 6 Drawing Sheets

